REMARKS

The Office Action of May 11, 2010 has been reviewed and carefully considered by the applicant.

Claim Status

Claims 1 and 14 have been amended. Claims 12 and 23 have been cancelled. New claim 24 has been added. No new matter has been introduced with the amendments to the claims.

Interview Summary

The applicant thanks the Examiner for her time in conducting a telephonic interview with the applicant's undersigned representative on July 22, 2010. In that interview, applicant's invocation of 35 USC §112, paragraph 6, was discussed. Additionally, distinctions between the claims and the cited references were discussed. The amendments and arguments presented herein are in furtherance of that discussion.

Claim Rejection under 35 USC §112

Claim 22 has been rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement.

Contrary to the Examiner's assertion, it is respectfully submitted that a boundary wall without a *lip* is disclosed by the present application, particularly in Figs. 1 and 2 where the boundary wall 13 is depicted. Neither of these figures depicting the boundary wall 13 include a lip on the boundary wall.

As will be highlighted in further detail below, the lack of a lip in the disclosed embodiments is a structural difference that distinguishes the operation of the claimed sterile air trolley from that disclosed in the cited references. It is, therefore, respectfully requested that the Examiner withdraw this rejection.

Claim Rejection under 35 USC §103

Claims 1, 2, 4-11, and 14-22 have been rejected under 35 USC §103(a) as being obvious over Howorth US Patent No. 4,531,956 (hereinafter "Howorth") in view of Marsh et al US Patent No. 3,629,999 (hereinafter "Marsh").

Claim 1

Claim 1 has been amended in the manner previously discussed with the Examiner in order to place claim 1 in a proper format for interpretation under 35 USC §112, paragraph 6.

Claim 1 includes:

> *means for giving rise to a substantially uniform and continuously replenished rising layer of filter air over the work surface and for forming a blanket of sterile air over the work surface*

As claim 1 is now properly recited in "means plus function" format, the Examiner must consider the functional distinctions highlighted in claim 1 that distinguish claim 1 from the combination of the Marsh and Howorth disclosures.

The amendments to claim 1 are supported in the specification, and in particular, the disclosure found at paragraphs [0029 - 0031]. Specifically, these highlighted paragraphs disclose "a substantially uniform flow of air out through the wall/walls 13 . . . a continuously replenished rising layer/column of filtered air is thus provided within the sterile air zone . . . and substantially uniform air flow over the work surface 12."

In the current Office Action, the Examiner agreed that Marsh is not directed to a laminar flow work bench (page 27). The applicant respectfully submits that the function claimed in claim 1 in means plus function format and is clearly disclosed to a person of ordinary skill in the art, is that of a laminar flow work bench.

The Examiner states that the claimed " blanket of air" does not translate into a type or directionality of the air flow required to define laminar flow. However, claim 1 currently recites *a substantially uniform and continuously replenished rising layer of filtered air over the work surface.* This claim language, which is supported in the specification as identified above, both describes the type and directionality of the air flow. Namely, the air flow is uniform in a continuously replenished rising layer and the air flow is directed *over the work surface* which is disclosed and claimed to be a *horizontal work surface*. Therefore, the "means" of claim 1 and the specification provides the function of providing a uniform layer of air flowing parallel to the work surface. According to Random House Dictionary via dictionary.com, "laminar" is defined as "composed of, or arranged in, a thin plate, sheet,

or layer." (*cf lamine*). Thus, the claimed *substantially uniform and continuously replenished rising layer of filtered air over the work surface* claims the function of laminar flow, which the Examiner has recognized is not disclosed by Marsh.

The *means for giving rise to a substantially uniform and continuously replenished rising layer of filtered air over the work surface* of claim 1 is further not disclosed or rendered obvious by the disclosure of Marsh as Marsh discloses "a uniform mass of air" (column 2, lines 64-65). Rather than the claimed *layer of filtered air over the work surface*. The difference between the "mass of air" in Marsh and the *layer of filtered air* of claim 1 represents a non-obvious distinction between the disclosures. Specifically, the "mass of air" of Marsh is a turbulent air flow that is not directed *over the work surface*. Specifically, Marsh fails to disclose the claimed *means* as Marsh uses a "reticulated, flexible foam as a diffuser material." This foam diffuser necessarily contains non-uniform pores which direct the flow of air therethrough in all directions extending towards the center of the diffuser well. Referring again to the Random House Dictionary via dictionary.com, "diffuse" means "to spread out or scatter widely." Therefore, the air flow produced by Marsh is not a *layer of air over the work surface*.

When Marsh refers to "a uniform mass of air in a 360° arc toward the center of the diffuser well," Marsh is referring to the fact that the air is provided evenly around the 360° arc of the diffuser rather than any uniformity in the specific flow of the air through the diffuser. This explains the distinction of Marsh's "mass of air" from the claimed *layer of filtered air*. Due to the randomness of the direction of the air flow through the diffuser, Marsh requires a lip overhang 38 "to give direction to the outpouring air from the diffuser." Thus, Marsh recognizes that the air through the diffuser is flowing in all directions and therefore requires a lip that "for best results is at least 1/6th of the inner diameter of the diffuser" to direct the flow to the center of the well. As the lip overhang extends in a 360° arc around the well, the preferred lip overhang covers a third of the total diameter of the diffuser well in an effort to force the mass of air towards the center of the well.

The differences between the claimed *layer of filtered air* and the disclosed "mass of air" are further highlighted by the opposing stated effects of the two devices. Specifically, the present application warns of the risk of having air flow upwardly through outlets in the work surface that causes the entrainment of blood from surgical instruments placed on the work surface in the air flow as an aerosol. In other words, the present application warns of the introduction of aerosol contaminants from

used surgical instruments placed in the sterile air trolley. The presently claimed device addresses this problem by providing the rising layer of filtered air over the work surface as this "prevents any inflow/entrainment of contaminants into the sterile zone." [0008]

To the contrary, Marsh discloses in the "SUMMARY OF THE INVENTION" that the disclosed apparatus is designed "to sweep away both locally and externally generated contaminants . . . where a rising vortex *sweeps away local contamination*" (emphasis added). Thus, Marsh discloses as an object of the device an apparatus that moves local contamination from within the diffuser well to the region outside of the well. This is specifically one of the problems to which the sterile air trolley claimed in claim 1 is designed to address and does so with the claimed *means for giving rise to a substantially uniform and continuously replenished rising layer of filtered air over the work surface.*

Therefore, claim 1 is non-obvious over the combination of the disclosures of Howorth and Marsh.

Claims 2, 4-11, 20, and 22 all depend from independent claim 1, which is herein believed to be allowable. Therefore, claims 2, 4-11, 20, and 22 are also believed to be allowable for the reasons stated above with respect to claim 1 as well as for the subject matter specifically recited in each of these claims. The applicant reserves the right to individually address the patentable subject matter of these claims during further prosecution, if required.

Claim 14

Independent claim 14 has been amended to include:

> *means for preventing the entrainment of contaminants in the tray to a region outside of the tray by providing a substantially uniform flow of filtered air over the work surface in a continuously replenished rising layer.*

The means of claim 14 is similar to that claimed in claim 1 and therefore is believed to be allowable over the Howorth and Marsh references for similar reasons as expressed above with respect to claim 1. Additionally, claim 14 now specifically recites that the means prevents entrainment of contaminants. This is not disclosed by any of the cited references and, therefore, claim 14 is believed

to be allowable. Similarly, claims 15-19 and 21, which all depend from independent claim 14, are also believed to be allowable.

No Motivation to Combine

The specification of the present application specifically identifies the problem of entrainment of blood as an aerosol from surgical instruments that are placed on a work surface and subjected to an upward air flow. This problem is addressed by the claimed sterile air trolley of the present application. The applicant respectfully submits that the Examiner has no motivation to combine the disclosures of Howorth and Marsh to support the current obviousness rejection as both of the disclosed devices of Howorth and Marsh suffer from the "entrainment problem" that is identified in the present application. The specification of the present application specifically notes that the entrainment of blood from surgical instruments is a specific risk of sterile air trolleys where the air is driven upwards through the work surface. This is specifically the design of Howorth. Therefore, Howorth fails to address this feature and does not render obvious a solution to this problem. As noted above, Marsh specifically notes that the disclosed apparatus is capable to sweep away locally generated contaminants. Neither Howorth or Marsh recognize the identified problem of their disclosed devices and do not present a solution which is only disclosed and claimed in the present application. Therefore, a person of ordinary skill in the art would not be motivated to combine these disclosures in rejecting the present claims.

Therefore, the claims of the present application are believed to be in a condition for allowance.

New Claim 24

Newly presented claim 24 includes:

> *a plurality of opposing side walls forming an interior side of the boundary wall, the opposing side walls being densely perforated with many substantially uniformly distributed apertures that direct a substantially uniform flow of air through the boundary wall and over the work surface.*

The claimed plurality of opposing side walls of claim 24 distinguishes the sterile air trolley of claim 24 from the disclosures of Marsh and Howorth by claiming the above structures of the

plurality of opposing side walls that are *densely perforated* to *direct a substantially uniform flow of air through the boundary wall and over the work surface.* This draws a similar distinction from the disclosures of Howorth and Marsh as the above claims 1-22 have presented; however, recited in a structural form. The disclosure of Marsh fails to render obvious the claimed plurality of opposing side walls as Marsh discloses a foam diffuser that does not *direct a substantially uniform flow of air through the boundary wall and over the work surface.* Rather, the diffuser of Marsh scatters the air in a mass and directs the mass of air inward with a projecting lip.

Howorth fails to render the claimed *plurality of opposing side walls* obvious as Howorth does not include side walls and rather perforates the work surface. As has been pointed out above, the perforation of the work surface increases the risk of entrainment of contaminants from a used surgical instrument in the form of an aerosol into a sterile environment. Thus, Howorth fails to render obvious the structure of new claim 24. As such, the combination of Howorth and Marsh fails to render obvious new claim 24 and this claim is believed to be allowable.

Conclusion

By the present amendments and arguments, the present application is believed to be in a condition for allowance with claims 1, 2, 4-11, and 14-24. Such action is earnestly requested.

Respectfully submitted,

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